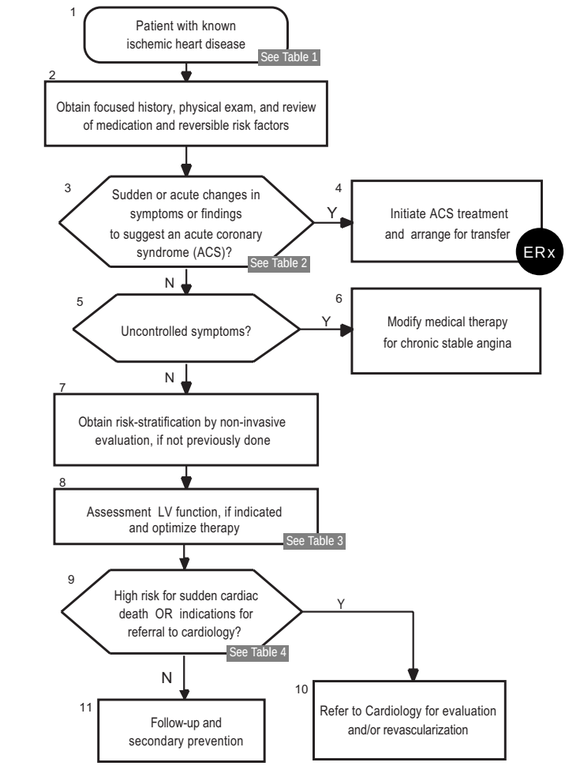
VA/DoD Clinical Practice Guideline Management of Ischemic Heart Disease (IHD) in Primary Care - Module G Follow-up and Secondary Prevention Pocket Guide



VA access to full guideline: http://www.oqp.med.va.gov/cpg/cpg.htm
DoD access to full guideline: http://www.cs.amedd.army.mil/Qmo
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April 2002

NATIONAL CPG COUNCIL

ERx Emergency Intervention for Acute Coronary Syndrome

- **Cardiac monitor**
- **O2**
- **Chew aspirin 160-325 mg**
- **IV access**
- **Obtain lab test (cardiac specific enzymes)**
- **SL-NTG, if no contraindication**
- **12-lead ECG**
- **Adequate analgesia**
- **ACLS intervention**
- **Chest X-ray, if available**
- **Arrange transportation**

Table 1: DIAGNOSIS OF CORONARY ARTERY DISEASE (CAD)

- Prior myocardial infarction (MI) and/or pathologic Q-waves on the resting electrocardiogram (ECG)
- Typical stable angina in males > age 50
- Cardiac stress test showing evidence of myocardial ischemia
- Left ventricular (LV) segmental wall motion abnormality by angiography or cardiac ultrasound
- Silent ischemia, defined as reversible ST-segment depression by ambulatory ECG monitoring
- Significant obstructive CAD by angiography
- Prior coronary revascularization (percutaneous coronary intervention or coronary artery bypass graft surgery)

Canadian Cardiovascular Society Classification of Angina

Class I	Angina only with *strenuous* exertion
Class II	Angina with *moderate* exertion
Class III	Angina with *minimal* exertion or ordinary activity
Class IV	Angina *at rest* or with *any* physical activity

Table 2: Symptoms That May Represent Ischemia or MI

- New onset or worsening chest pain, discomfort, pressure, tightness, or heaviness (defined as at least a one-class increase Canadian Cardiovascular Society angina classification)
- Radiating pain to the neck, jaw, arms, shoulders, or upper back
- Unexplained or persistent shortness of breath
- Unexplained epigastric pain
- Unexplained indigestion, nausea, or vomiting
- Unexplained diaphoresis
- Unexplained weakness, dizziness, or loss of consciousness

For Diagnosis of ACS See the Core Pocket Guide

Symptom Characteristics Suggesting Non-Cardiac Pain

- Pleuritic pain (i.e., sharp or knife-like pain brought on by respiratory movements or cough)
- Primary or sole location of discomfort in the middle or lower abdominal regions
- Pain that may be localized at the tip of one finger, particularly over costochondral junctions or the LV apex
- Pain reproduced with movement or palpation of the chest wall or arms
- Constant pain that lasts for many hours
- Very brief episodes of pain that last a few seconds or less
- Pain that radiates into the lower extremities

Pretest Probability of CAD by Age, Gender, and Symptoms

Age	Gender	Typical/Definite Angina Pectoris	Atypical/ Probable Angina Pectoris	Non-Cardiac Chest Pain	Asymptomatic
30-39	Men	Intermediate	Intermediate	Low	Low
	Women	Intermediate	Intermediate	Low	Low
40-49	Men	Intermediate	Intermediate	Intermediate	Low
	Women	Intermediate	Intermediate	Low	Low
50-59	Men	High	Intermediate	Intermediate	Low
	Women	Intermediate	Intermediate	Low	Low
60-69	Men	High	Intermediate	Intermediate	Low
	Women	Intermediate	Intermediate	Intermediate	Low

"High" indicates >90%, "intermediate" indicates 10% to 90%, and "low" indicates <10%

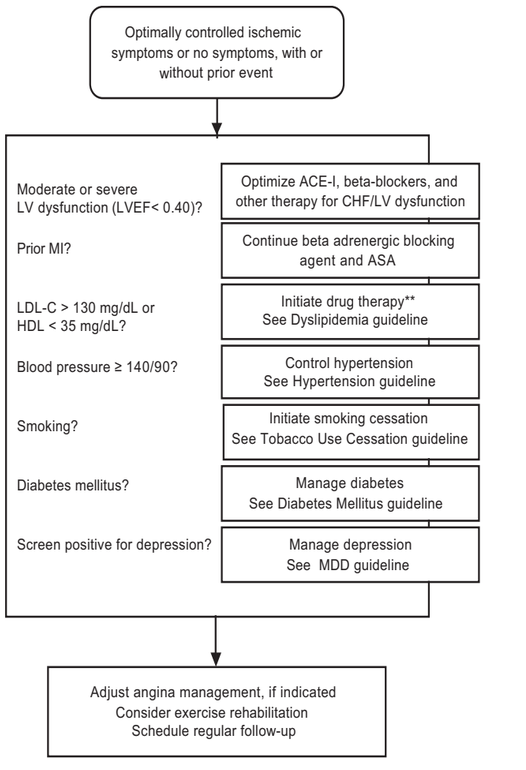
Table 3: Indications for assessment of LV Function

Symptoms of CHF (e.g., orthopnea or paroxysmal nocturnal dyspnea)
Significant impairments or recent decrement in exercise tolerance, due to dyspnea or fatigue
Physical signs of CHF (e.g., elevated jugular venous pressure, unexplained pulmonary rales, laterally displaced point of maximal impulse, and S3 gallop)
Cardiomegaly on chest x-ray
History of prior MI or pathologic Q-waves on the ECG.

Table 4: Referral to Cardiology

Moderate/severe LV dysfunction
Persistence of CHF symptoms and after initial therapy
Class III or IV angina, despite maximal medical therapy
Patients whose prior results from coronary angiography suggest a possible survival benefit from the use of coronary bypass surgery
Patients without prior coronary angiography, but have Class III-IV angina or heart failure or high-risk results of non-invasive tests.
Patients with high-risk for sudden cardiac death: • History of sudden cardiac death or sustained monomorphic ventricular tachycardia to an electrophysiologist • LVEF<0.40 and nonsustained ventricular tachycardia • LVEF<0.40 and syncope of undetermined etiology

Secondary Prevention



** For LDL-C>130 mg/dL: Initiate statin. Treatment goal: LDL-C <120mg/dL
For LDL-C <130 mg/dL HDL <40 mg/dL (not on statin): Initiate Gemfibrozil
For LDL-C 100 to 129 mg/dL: Initiate diet and exercise and consider drugs

Medical Therapies For Patients With LV Dysfunction
ACE inhibitors improve morbidity and mortality in patients with CHF or low EF
Asymptomatic patients, but with low EF, experience survival benefit from ACE inhibitors
Doses of ACE inhibitors should be equivalent to 20mg enalapril qd to obtain greatest benefit
Beta-blockers should be considered for all patients with NYHA class II or III CHF, and EF<0.40, after stabilization on ACE inhibitors.
Addition of spironolactone to ACE inhibitors and diuretics in patients with severe heart failure improves morbidity and mortality.
Digoxin use in heart failure (EF<0.45) does not affect mortality, but decreases hospitalization due to heart failure
Diuretics improve symptoms of volume overload.

Drug/Dose	Common Side Effects	Contraindications
Spironolactone: 25mg/day	• Hyperkalemia, gynecomastia, GI intolerance, hyponatremia, and hyperchloremic metabolic acidosis	• Anuria, ARF, and hyperkalemia
Digoxin: goal of 0.5-1.0ng/ml (low dose)	• Nausea, abdominal pain, blurred vision, arrythmias, bradycardia, fatigue, and headaches	• Hypertrophic subaortic stenosis • Caution with AV block • Vfib/v. tach (caution)
Warfarin: A. Goal INR of 2-3 to prevent systemic embolization B. Goal INR of 2.5-3.5 to prevent recurrent MI within first three months	• GI/GU bleeding • Skin necrosis • Osteoporosis	• Pregnancy, hemophilia, cerebrovascular hemorrhage, and h/o warfarin induced skin necrosis

Pharmacotherapy for IHD follow-up

DRUG/DOSE	COMMON SIDE EFFECTS	CONTRAINDICATIONS
Aspirin: UA/MI 160mg - 325mg; chronically 81mg - 325mg	• GI intolerance: dyspepsia, nausea, GI bleeding, and heartburn • Bronchospasm: prominent in patients with a history of asthma/nasal polyps • Tinnitus, Thrombocytopenia,proteinuria/nephropathy	• ASA hypersensitivity: bronchospasm, angioedema, and anaphylaxis • Active, severe bleeding
Clopidogrel: UA/MI 300mg x 1; then 75mg qd	• Neutropenia: was 0.10% versus 0.17% for ASA in the CAPRIE trial • Bleeding • GI intolerance: diarrhea	• Hypersensitivity to clopidogrel • Active pathological bleeding (GI bleeding and intracranial hemorrhage)
ß-Blockers **Atenolol:** 25mg - 200mg qd **Metoprolol:** 6.25mg - 100mg bid **Carvedilol:** 3.125mg - 50mg bid	• Bradycardia, hypotension, fatigue, insomnia, depression, impotence, cold periphery, masking of hypoglycemia, nightmares/vivid dreams • Wheezing and dyspnea seen with larger doses	• Sinus bradycardia/BP <90 • 2nd or 3rd degree Heart Block • Cardiogenic shock • Severe bronchospastic disease • Sick sinus syndrome • Overt, decompensated heart failure
ACE Inhibitors **Captopril**: 6.25mg - 50mg tid **Enalapril**: 2.5mg - 10mg bid **Fosinopril**: 10mg - 40mg qd **Lisinopril**: 5mg - 40mg qd **Ramipril**: 2.5mg - 5mg bid	• Hypotension, hyperkalemia, acute renal impairment, angioedema, cough, dyspnea	• Pregnancy - 2nd and 3rd trimester • Hypersensitivity to ACEs • Bilateral Renal Artery Stenosis • Renal Failure
Angiotensin II Blockers **Losartan:** 25mg - 100mg qd **Valsartan:** 80mg - 320mg qd	• Less incidence of cough than ACEs.	• **Same as ACE inhibitors** • Alternatives to ACE inhibitors in patients who cannot tolerate ACEs.
Lipid-Lowering Agents		
Statins **Atorvastatin**: 10mg - 80mg qd **Fluvastatin:** 10mg - 80mg qPM **Lovastatin:** 10mg - 80mg qPM with food **Pravastatin:** 10mg - 40mg qPM **Simvastatin:** 5mg - 80mg qPM	• Abdominal pain, constipation, diarrhea, dyspepsia, nausea, myopathy, and rhabdomyolysis • Increase in LFTs >3 x the upper limit, and CPKs >10 x the upper limit	• Hypersensitivity • Active liver disease • Unexplained, persistent elevations of LFTs • Pregnant/lactating women
Fibrates **Fenofibrate:** 67mg qd tid **Gemfibrozil:** 600mg bid AC	• GI symptoms – N/V/D, rash, hepatitis, gallstones, and myositis	• Hepatic or severe renal dysfunction • Gallbladder disease
Bile Acid Resins **Cholestyramine:** 4gm - 24gm/day (2 - 4 doses) **Colestipol packs:** 5gm - 30gm/day (1 - 3 doses **Colestipol tabs:** 2gm - 16gm/day (1 - 3 doses))	• Nausea, bloating, constipation, and flatulence	• Complete billiary obstruction
Niacin **Niaspan:** 500mg - 2000mg HS **Niacin RR:** 100mg - 6000mg/day (3-4 doses)	• Flushing, blurred vision, GI distress, itching, headache, hepatotoxicity, hyperglycemia, and hyperuricemia	• Active liver disease, active peptic ulcer disease, persistent elevation of LFTs, or arterial bleeding